

REMARKS

Reconsideration of this application is requested.

Claims 14 and 16 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 has been amended by deleting the word "the" and substituting the word --a-- therefor. It is believed that this makes the claim definite within the meaning of the statute.

The Examiner objected to claim 16 as being unclear in reciting that the Cu-containing superconductor could be a member of "one or more" different families. There are a variety of different superconductors and there is nothing to prevent more than one different family of superconductor being included on the same substrate on different sides of the same substrate or in the same construction in side-by-side relationship. Therefore, it is believed that the claim as drawn is definite within the meaning of the statute and it is suggested that the Examiner withdraw the rejection under §112, second paragraph, for both claims 14 and 16.

Claims 1-4, 6-8, 10-12 and 14-20 were rejected under 35 U.S.C. § 102(a or e) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over the Onabe et al. U.S. publication no. 2003/0134749. Without going into detail, the Examiner concluded that although the Onabe et al. publication teaches copper in a diffusion layer from 50 $\mu\text{g}/\text{cm}^2$ to 300 $\mu\text{g}/\text{cm}^2$, referencing page 3, (paragraph 0027), it would be obvious to one of ordinary skill in the art at the time the invention was made to

choose a percent in the applicants' claimed range, since it has been held that discovering an optimum value or result effective variable involved only routine skill in the art, citing *In re Boesch*, 617 F. 2d 272, 205 U.S.P.Q. 215 (CCPA 1980).

Dr. Balachandran has kindly calculated the atom percent of the Onabe et al. publication and the values of 50 $\mu\text{g}/\text{cm}^2$ to 300 $\mu\text{g}/\text{cm}^2$ translates to 0.75 atom percent to 4.5 atom percent copper. The subject application is directed to a composition having copper present in the 0.1 to 0.3 atom percent range, substantially different than the Onabe et al. publication. Furthermore, reference to Figures 3 and 4 of the present application shows that there is a dramatic difference in the performance of superconductors with copper content outside of the claimed range. The curve of the Tables shows a dramatic decrease in performance after 0.2 atom percent. Therefore, the Onabe et al. publication range of 0.75 atom percent to 4.5 atom percent copper is not the kind of difference supported by the case cited by the Examiner.

In re Boesch et al. cited by the Examiner relates to an alloy case in which the appellants claimed alloy overlapped the ranges disclosed in the prior art. No such factual basis exists in the present case on which the Examiner can base the alleged prima facie case. In fact, it is the applicants' position, herein, that the Examiner has not established a prima case. A prima facie case is a procedural tool which if used correctly, means that the applicant must proceed with evidence to rebut the Patent Office position. However, the evidence must reasonably allow the conclusion the Examiner seeks, see *In re Spada*, 911 F 2d. 705, 15 U.S.P.Q. 2d 1655 (Fed. Cir. 1990). Moreover, it is the Examiner who bears the initial burden of presenting a prima facie

case of obviousness and only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant, see In re Rijckaert, 9 F.3d 1531, 28 U.S.P.Q. 2d 1955 (Fed. Cir. 1993).

Most importantly, the Examiner has attempted to modify the Onabe et al. reference in contradistinction to the fundamental teaching thereof. The Examiner is directed to page 3, paragraph 0027, wherein it is stated:

“If the above Cu content is less than $50 \mu\text{g}/\text{cm}^2$, the effect of suppressing the diffusion of Cu from the oxide superconductor layer is unable to be obtained, while in the case the Cu content exceeds $300 \mu\text{g}/\text{cm}^2$, the Cu contained in the diffusion layer reacts with the oxygen gas during formation of the oxide superconductor layer, resulting in its precipitation in the form of CuO and other oxides, thereby making this undesirable.”

The Examiner cannot modify Onabe et al. opposite to the precise teaching of the reference, rendering Onabe et al. inoperable, in its own terms, to render obvious the invention herein. Accordingly, the Examiner has not made out a prima facie case and has not and does not have any basis on which to reject the claims of this application on either §102 or §103 in view of the Onabe et al. publication.

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Onabe et al. publication and further in view of Balachandran et al. U.S. patent no. 6,579,360.

The Balachandran et al. '360 patent teaches a non-biaxially aligned substrate that is chemically inert to the superconductor to prepare the superconductor by inclined

substrate deposition. There is no mention of silver or ~~or~~ copper in the '360 patent.

Therefore, a combination of the Balachandran et al. patent and Onabe et al. publication does not cure the fatal defect of the Onabe et al. reference which does not disclose the claimed ranges and teaches directly away from the claimed ranges.

Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Onabe et al. reference, further in view of the Hahakura et al. U.S. patent no. 5,929,000. The Examiner again relies on the Onabe et al reference for teaching the claimed atom percent of copper when in fact the Onabe et al. reference teaches nothing of the sort and in fact teaches directly away from the claimed invention. Therefore, claim 9 should be allowed.

Claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Onabe et al. publication but as stated above, this reference is inadequate on which to base any rejection whatsoever.

For all the foregoing reasons, it is respectfully suggested that each of claims that each of claims 1-2- as presented is drawn to patentable subject matter and the allowance thereof is requested.


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